

# *Net Zero Electricity Street Light Pole*



# *Outline*

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- 5. INNOVATION CONTENT*

# Targeted Problem

- Street Lights, community Lights etc comes under Municipal Corporations and they have to pay bill to Utilities
- *Already under financial pressure utilities are not comfortable providing power supplies to local bodies for public welfare like street lights, community lights, traffic lights*
- *The reason behind this situation is utilities do not get timely and full payment from local bodies*
- *Local bodies also have financial constraints to meet OPEX expenditure while CAPEX is available to develop the requisite infra from central/state Governments.*
- Many times disputes occurs between utilities and local bodies due to financial constraints.

# Solution

- The right solution for such applications would be to provide solution needing no OPEX
- Solution proposed is like whatever KWh is the consumption in night time is fed back to grid in day time in equivalent amount using *Grid Fed Solar Micro Inverter* based module
- This shall avoid billing & payment related disputes between local bodies and Utilities

# Opportunity

- Under smart city program *15% energy supply* has to be generated using solar hence putting solar panel on every street light pole shall successfully fulfill this obligation and also shall be entitled to be truly called a smart solar city.
- All Industrial, Residential Townships to make township smarter and Greener

# Return On Investment

- Typically 60W street light which is also mandatory to be converted to LED street light pole under smart city /energy efficiency measure shall roughly *consume 1 KWh of electricity in the night time*
- While 120W SPV module shall *generate 1KWh in day time* make pole an energy surplus thus NET ZERO POLE
- Such an arrangement shall cost around Rs 6000 per pole
- Electricity saved per annum shall be around \*Rs 2150/- thus resulting in pay back of around 2.7 years & subsequently one shall have energy produced on NET ZERO concept for 25 years

5.90 Rs per KWh  
 $30 \times 12 \times 5.90 = 2150 \text{ Rs}$

# *Innovation Content*

- Presently *Micro inverters* are not being used in our country and no such arrangement like *NET ZERO CONCEPT* exist for street lights thus making it an unique patentable innovation enabling start up opportunity in sync with smart city program of Government of India.